Approved for use through 10/31/2002. OM8 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO	Complete if Known			
MFORMATION DISCLOSURE	Application Number	10/063,806		
/ STATEMENT BY APPLICANT	Filing Date	05/15/02		
MAY 2 1 2002 E Submitted: May 24, 2002	First Named Inventor	Dinko E. GONZALEZ TROTTER et al.		
	Group Art Unit	Unassigned		
(uteras many sheets as necessary)	Examiner Name	Unassigned		
sheet of 4	Attorney Docket Number	040849/0188		

				U.S. PATENT DOCUMENTS	•	
	0:1-	U.S. Patent	Document	No. of Datasta and April 2004 of	Date of Publication of	Pages, Columns, Lines Where Relevant
Examiner Cite Initials* No.1	Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	
DM1	A1	5,474,072	,	Shmulewitz	12/12/1995	
Xm	A2	5,983,123		Shmulewitz	11/9/1999	
1912	A3	5,630,426		Eggers et al.	5/20/1997	
DUNY	A4	5,479,927		Shmulewitz	1/2/1996	
Am	A5	5,938,613		Shmulewitz	8/17/1999	
ans	A6	5,851,180		Crosby et al.	12/22/1998	
SM	A7	5,840,022		Richter	11/24/1998	
DMS	A8	5,776,062		Nields	7/7/1998	
NA	A9	5,660,185		Shmulewitz et al.	8/26/1997	
DB/	A10	5,664,573		Shmulewitz	9/9/1997	
OM	A11	5,820,552		Crosby et al.	10/13/1998	
Lines	A12	5,603,326		Richter	2/18/1997	
XM	A13	5,640,956		Getzinger et al.	6/24/1997	
DAY	A14	5,735,264	1	Siczek et al.	4/7/1998	
20mg	A15	5,803,082		Stapleton et al.	9/8/1998	· · · · · · · · · · · · · · · · · · ·
om	A16	5,828,774	1	Wang	10/27/1998	
Variation	A17	4,407,163		Hundt et al.	10/4/1983	<u> </u>
2112	A18	4,543,959		Sepponen	10/1/1985	
0000	A19	4,509,368		Whitting et al.	4/9/1985	
din	A20	4,936,291		Forssmann et al.	6/26/1990	
2012	A21	5,361,767		Yukov	11/8/1994	
com	A22	5,855,554		Schneider et al.	1/5/1999	
XXN)	A23	5,999,639		Rogers et al.	12/7/1999	
Sm	A24	5,984,870		Giger et al.	11/16/1999	
Lens	A25	3,971,950		Evans et al.	7/27/1976	
Dir	A26	6,180,943	T	Lange	1/30/2001	
mg	A27	5,872,828		Niklason et al.	2/16/1999	
DON	A28	5,810,742		Pearlman	9/22/1998	
UN	A29	5,923,775		Salder et al	7/13/1999	

		-		FC	REIGN PATENT DOCUMEN	TS		
Examiner Initials*	Cite No.1	For Office ³	eign Patent D Number ⁴	Ocument Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	_T¢
								-
		 				 		+

Examiner Signature	Danthouse	Date Considered	9/19/63

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.

¹ Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (MIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE sons are required to respond to a collection of information unless it contains a valid OMB control

Under the Paperwork Reduction

Sheet

k Reduction Act of 1995, no

Substitute for formal 100 INFORMATION DISCLOSURE STATEMENT BY APPLICANT Date Submitted: May 24, 2002

(use as many sheets as necessary)

Complete if Known						
Application Number	10/063,806					
Filing Date	05/15/02					
First Named Inventor	Dinko E. GONZALEZ TROTTER et al.					
Group Art Unit	Unassigned					
Examiner Name	Unassigned					
Attorney Docket Number	040849/0188					

				FC	DREIGN PATENT DOCUMEN	TS		
Examiner Initials*	Cite No.1	Fore Office 3	eign Patent D Number ⁴	Ocument Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Τ*

		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the Item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	Te
~OM	A30	A. THOMAS STAVROS et al.: "Solid Breast Nodules: Use of Sonography to Distinguish between Benign and Malignant Lesions," Radiology, July 1995, pages 123-134, Volume 196, Number 1, Englewood, CO	
DM	A31	THOMAS M. KOLB et al.: "Occult Cancer in Women with Dense Breasts: Detection with Screening US- Diagnostic Yield and Tumor Characteristics," Radiology, April 1998, pages 191-199, Volume 207, Number 1	
Day	A32	DANIEL B. KOPANS et al.: "Development and Clinical Evaluation of Tomosynthesis for Digital Mammography; Technical and Cost Proposal," Clinical Translational Research Award, Department of Defense Breast Cancer Research Program, November 19, 1997, pages 1-54	
Duy	A33	NICO KARSSEMEIJER: "Computer-Aided Detection and Interpretation in Mammography," pages 243-252	
Day	A34	NICO KARSSEMEIJER et al.: "Detection of Stellate Distortions in Mammograms," IEEE Transactions on Medical Imaging, October 1996, pages 611-619, Vol. 15, No. 5, IEEE	
Lina	A35	IOANNA CHRISTOYIANNI et al.: "Fast Detection of Masses in Computer-Aided Mammography," IEEE Signal Processing Magazine, January 2000, pages 54-64	
Dens	A36	CELIA BYRNE et al.: "Mammographic Features and Breast Cancer Risk: Effects with Time, Age, and Menopause Status," Journal of the National Cancer Institute, November 1, 1995, pages 1622-1629, Vol. 87, No. 21	
Denn	A37	MILAN SONKA et al.: "Computer-Aided Diagnosis in Mammography," Handbook of Medical Imaging - Volume 2. Medical Image Processing and Analysis, pages 915-958, Spie Press, Bellingham, Washington	
LOM	A38	MATTHEW A. KUPINSKI et al.: "Feature Selection and Classifiers for the Computerized Detection of Mass Lesions in Digital Mammography," IEEE Int. Conf. On Neural Nets, 1997, pages 2460-2463, IEEE	
N. My	A39	SHUK-MEI LAI et al.: "On Techniques for Detecting Circumscribed Masses in Mammograms," IEEE Transactions on Medical Imaging, December 1989, pages 377-386, Vol. 8, No. 4, IEEE	
Des	A40	MARIOS A. GAVRIELIDES et al.: "Segmentation of Suspicious Clustered Microcalcifications in Mammograms," Med. Phys., January 2000, pages 13-22, Vol. 27, No.1, Am. Assoc. Phys. Med.	

Examiner Signature	At and Brown	Date Considered	9/20/03
3	Cor off-wood	55.15.25.55	7 . 00 /

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.

¹ Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precode the senal number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁴Applicant is to place a check mark here if English language Translation is attached.

MAY 2 4 2002

231

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it contains a valid OMB control

10111-1449B/PTO Substitute for Complete if Known INFORMATION DISCLOSURE **Application Number** 10/063,806 STATEMENT BY APPLICANT 05/15/02 Filing Date First Named Inventor Dinko E. GONZALEZ TROTTER et al. Date Submitted: May 24, 2002 Group Art Unit Unassigned (use as many sheets as necessary) **Examiner Name** Unassigned Sheet Attorney Docket Number 040849/0188

		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the ltem (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T⁵
N. W.	A41	WEI ZHANG et al.: "Optimally Weighted Wavelet Transform Based on Supervised Training for Detection of Microcalcifications in Digital Mammograms," Med. Phys. June 1998, pages 949-956, Vol. 25, No. 6, Am. Assoc. Phys. Med.	
XOM,	A42	BERKMAN SAHINER et al.: "Computerized Characterization of Masses on Mammograms: The Rubber Band Straightening Transform and Texture Analysis," Med. Phys. April 1998, pages 516-526, Vol. 25, No. 4, Am. Assoc. Phys. Med.	
Dis	A43	ZHIMIN HUO et al.: "Computerized Analysis of Mammographic Parenchymal Patterns for Breast Cancer Risk Assessment: Feature Selection," Med. Phys., January 2000, pages 4-12, Vol. 27, No. 1, Am. Assoc. Phys. Med.	
XIM	A44	DATONG WEI et al.: "Classification of Mass and Normal Breast Tissue on Digital Mammograms: Multiresolution Texture Analysis," Med. Phys. September 1995, pages 1501-1513, Vol. 22, No. 9, Am. Assoc. Phys. Med.	
WA	A45	JOHN J. HEINE et al.: "Multiresolution Statistical Analysis of High-Resolution Digital Mammograms," IEEE Transactions on Medical Imaging, October 1997, pages 503-515, Vol. 16, No. 5, IEEE	
ans	A46	WOUTER J. H. VELDKAMP et al.: Normalization of Local Contrast in Mammograms," IEEE Transaction on Medical Imaging, July 2000, pages 731-738, Vol. 19, No. 7, IEEE	
Dur	A47	WEI QIAN et al.: "Tree Structured Wavelet Transform Segmentation of Microcalcifications in Digital Mammography," Med. Phys., August 1995, pages 1247-1254, Vol. 22, No. 8, Am. Assoc. Phys. Med.	
MM	A48	HIGHNAM et al.: "Mammographic Image Analysis," 1999, pages 39-53, 191-223, 288, Kluwer Academic Publishers	
Des	A49	DUDA et al.: "Pattern Classification," 2001, pages 161-199	
Din	A50	LAURA M. YARUSSO et al.: "Application of Computer-Aided Diagnosis to Full-Field Digital Mammography," IWDM 2000, 5th International Workshop on Digital Mammography, pages 421-246, 2001, Medical Physics Publishing, Madison, Wisconsin	
XOM	A51	LIHUA LI et al.: "Hybrid Classification Method for False-Positive Reduction in CAD for Mass Detection," IWDM 2000, 5 th International Workshop on Digital Mammography, pages 272-279, 2001, Medical Physics Publishing, Madison, Wisconsin	
Sily	∕A52	ROBERT P. VELTHUIZEN: "Computer Description of Mammographic Masses," IWDM 2000, 5th International Workshop on Digital Mammography, pages 395-401, 2001, Medical Physics Publishing, Madison, Wisconsin	
DM	A53	ARMANDO BAZZANI et al.: "Automatic Detection of Clustered Microcalcifications Using a Combined Method and an SVM Classifier," IWDM 2000, 5 th International Workshop on Digital Mammography, pages 161-167, 2001, Medical Physics Publishing, Madison, Wisconsin	
Dry	A54	YOSHIHIRO HAGIHARA et al.: "Accurate Detection of Microcalcifications on Mammograms by Improvement of Morphological Processing," IWDM 2000, 5 th International Workshop on Digital Mammography, pages 193-197, 2001, Medical Physics Publishing, Madison, Wisconsin	

Examiner Signature Date Considered 9/20/03		 	 	
	Examiner	avri	F = '	9/20/03

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Unique citation designation number. 2See attached Kinds of U.S. Patent Documents. 3Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 8Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO	Complete if Known		
O E JOINFORMATION DISCLOSURE	Application Number	10/063,806	
F JC INFORMATION DISCLOSURE	Filing Date	05/15/02	
U	First Named Inventor	Dinko E. GONZALEZ TROTTER et al.	
e Submitted: <u>May 24, 2002</u>	Group Art Unit	Unassigned	
(use as many sheets as necessary)	Examiner Name	Unassigned	
Sheet 4 of 4	Attorney Docket Number	040849/0188	

		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the Item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	Т
DB	A55	M. LANYI: "Diagnosis and Differential Diagnosis of Microcalcifications," Ductal Carcinomas of Varying Histologic Types, pages 44, 60, 61, 86, 95, 98-101, 110, 118-120, and 192, 1987, Springer-Verlag	
LOGS	AFC	DANIEL B. KOPANS: "The Positive Predictive Value of Mammography," AJR, March 1992, pages 521-526, Vol. 158, American Roentgen Ray Society	

Examiner Signature Date Considered 9/20/03

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WiPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

OTPE Substitute for form 1449B/PTO	1	Complete if Known		
NFORMATION DISCLOSURE	Application Number	10/063,806		
/ ATEMENT BY APPLICANT	Filing Date	05/15/02		
עון 3 1 2002 Date Submitted: July 31, 2002	First Named Inventor	Dinko E. GONZALEZ TROTTER et al.		
the as many sheets as necessary)	Group Art Unit	Unassigned		
(use as many sheets as necessary)	Examiner Name	Unassigned		
Sheet of 1	Attorney Docket Number	040849/0188		

U.S. PATENT DOCUMENTS						
		U.S. Patent Document			Date of Publication of	Pages, Columns, Lines, Where Relevant
Examiner Cite Initials* No.		Number	Kind Code² (if known)	(if Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear
	- 1					
	i					

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No.1	Foreign Patent Document			Name of Patentee or	Date of Publication of Cited Document	Pages, Columns, Lines, Where Relevant	T
		Office ³	Number ⁴	Kind Code ⁵ (if known)	Applicant of Cited Documents	MM-DD-YYYY	Passages or Relevant Figures Appear	⊤ 6
								Ī
								
					- · ····			+
								1

		OTHER PRIOR ARY – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the Item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁸
KON54	A1	J. A. SEIBERT "X-ray Scatter Removal by Deconvolution" pages 567-575, 1988 Am. Assoc. Phys. Med.	
den	A2	DINKO E. GONZALEZ TROTTER "Thickness-dependent Scatter Correction Algorithm for Digital Mammography	
Den	A3	JOHN J. HEINE, "Mammographic Tissue, Breast Cancer Risk, Serial Image Analysis, and Digital Mammography, Part 1, Academic Radiology, Vol. 9, pages 298-316, No 3, March 2002	-
XJVI	A4	JOHN J. HEINE "Mammographic Tissue, Breast Cancer Risk, Serial Image Analysis, and Digital Mammography, Part 2, Academic Radiology, Vol. 9, No. 3, pages 317-335, March 2002	_
Dus	A 5	JOHN M. BOONE "Scatter/Primary in Mammography: Comprehensive Results" pages 2408-2416, 2000 Am. Assoc. Phys. Med.	

Havothrun	2	9/19/03
Signature	Considered	

*EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant

1 Unique citation designation number. 2See attached Kinds of U.S. Palent Documents. 3Enter Office that issued the document, by the two-letter code (WIPO \$1.8673LB) and ST.3) 4For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document 5Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO. Assistant Commissioner for Patents, Washington, D.C. 20231.